

**The Maryland Healthcare Commission
Health Information Organization Research
Arizona - AMIE HIO
February , 2009**

Section		Requirement	Definitions	Arizona / AMIE
Vision	I.	Vision	Clear description of how to respond the unique needs an opportunities of HIE in state	
	A.	Mission		
	B.	Principles from Appendix B		
	C.	Interoperability		
	D.	Quality of care		
Strategy and Planning	II.	Financial Model and Sustainability	Economic Analysis of cost and benefit for each phase of implementation	
	A.	Financially sustainable		
	A1	Transaction fees		
	A2	Subscription fees		
	A3	Membership fees		
	A4	Hospital funding		
	A5	State Funding		
	A6	Federal Funding		Amie was completely funded by the Medicaid Transformation Grant
	A7	Health Plan funding		
	A8	Physician funding		
	A9	Philanthropic funding		
	B.	Budget		A project budget was prepared and is reviewed monthly
	B1	capital		Capital expenditures were budgeted and reviewed monthly
B2	operating costs		All operating costs were budgeted and reviewed monthly, adjusted as needed	

Section		Requirement	Definitions	Arizona / AMIE
	B2-1	Salaries		
	B2-2	Benefits		
	B2-3	Office expense		
	B2-4	Rent		
	B2-5	Utilities		
	B2-6	Software purchase and maintenance		
	B2-7	Hardware purchase and maintenance		
	B2-8	Taxes		
	B2-9	Cyber Liability Insurance		
	B3	cash flow		
	B4	break even analysis		This is in process as they are trying to security more funding to continue the pilot
	C.	Community Benefit		Community Benefit is documented
	D.	Benefit Realization		
	D1	ROI - financial measurement		
	D2	ROI - quality measurement		
	D3	ROI - System use measurement		Measurements are being provided by number of users, type of data accessed, as well as help desk requests.
	D3-1	how many users		Measurements are being provided by number of users
	D3-2	what do they access		Measurements are being provided by type of data access

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Strategy and Planning	III.	Governance Framework	A multi-stakeholder approach that represents the needs of the community and all stakeholders	
	A.	Plan for engaging stakeholders		
	B.	Ownership model: Public-Private Partnership		The AMIE HIO is managed and governed by the Arizona Health Care Cost Containment System (AHCCCS)
	C.	Profit Status: Not-for-profit		AMIE is a government entity
	D.	Articles of Governance		
	E.	Role of Local HIEs:		
	E1	May include but not require creation of independent governance entities to oversee regional or local HIE. All HIEs would conform with statewide policies, standards and rules.		AMIE is beginning outreach to a Rural Mental Health Facility that is in the process of forming a HIO
	E2	RHIO participation will be required (required as regional governance entities)		
	E3	Local HIEs must be inclusive and non-discriminatory		
	F.	Technical Operations		
F1	Separate governing structure from technical operations (potential for combination in latter stages)			

Section		Requirement	Definitions	Arizona / AMIE
	F2	Governance and technical operations in single entity		
	G.	Accountability Mechanisms		
	G1	Direct oversight through contracts with incentives for adherence and penalties for non-adherence		
	G2	Direct oversight via legislation		
	H.	Board of Director Composition		
	H1	Governor's Office		
	H2	State Medicaid Agencies		
	H3	State Department of Health		
	H4	State Healthcare and Hospital Association		
	H5	State Medical Association		
	H6	Other non-profits who are involved in the medical community		
	H7	Government Agencies who may be a stakeholder		
	H8	Consumers		
	H9	Employers		
	H10	Insurers		
	H11	Health Care Providers		
	H12	Pharmacy		
	H13	Clinical Laboratories		
	H14	Higher Education		

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	H15	Quality Organizations		
	I.	Operational / Management Positions and Responsibilities		
		Positions		AMIE is staffed by a Project Director, Medical Director, several analysts and developers
	I1			
	I1-1	Executive Director		
	I1-2	Staff		
		2 program staff, controller, 2 adm assistants		
	I1-3			
		Privacy and Security Officer		
	I1-4			
	I2	Responsibilities		
		Execute strategic, business and technical plans		
	I2-1			
		Coordinate day-to-day tasks and deliverables		
	I2-2			
		Establish contracts and other relationships with local/sectoral initiatives		
	I2-3			
		Provide industry knowledge		
	I2-4			
	I2-5	Advise the Board		
	J.	Board Committees and Responsibilities		
	J1	Governance Board		
		Maintain vision, strategy, and outcome metrics		
	J1-1			

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	J1-2	Build trust, buy-in and participation of major stakeholders statewide		
	J1-3	Assure equitable and ethical approaches		
	J1-4	Develop high-level business and technical plans		
	J1-5	Approve statewide policies, standards, agreements		
	J1-6	Balance interests and resolve disputes		
	J1-7	Raise, receive, manage and distribute state, federal, private funds		
	J1-8	Prioritize and foster interoperability for statewide and sub-state initiatives		
	J1-9	Implement statewide projects and facilitate local/sector projects		
	J1-10	Identify and overcome obstacles		
	J1-11	Financial and legal accountability, compliance, risk management		
	J1-12	Educate and market		

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	J1-13	Facilitate consumer input (Others in MCHIE document worth reviewing and making sure tie back to above)		
	J1-14	Determining compensation for staff		
	J2	Board Committees		
	J2-1	Broadens stakeholder representation in governance body		
	J2-2	Provides content expertise in very specific areas		
	J2-3	Represents clinicians, consumers, employers and payers		
	J3	Suggested Committees:		
	J3-1	Steering Committee		
	J3-2	Privacy and Security (legal, S & P officers)		
	J3-4	Clinical		
	J3-5	Technical		
	J3-6	Standards		
	J3-7	Outreach and Education		
Strategy and Planning	IV.	Privacy and Security		
	A.	Registration		
	A1	Registration authority		
	A2	Trusted relationship (i.e. hospital)		AMIE has established a trusted relationship with the Hospitals that are providing the data
	B.	Authentication		

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	B1	providers		AMIE requires a strong password with questions as a means to authentication providers.
	B2	consumers		
	B3	public health		
	B4	other institutions (educational)		
	B5	non licensed providers (if any exist in state)		
	B6	data authentication (in and out of HIO)		AMIE authenticates the data being provided to the system, not for accuracy but to verify whose data it is by matching patient data.
	B7	system authentication (system accessing HIO)		AMIE performs system authentication to monitor which systems from what location are providing data
	C.	Identification		
	C1	Use of a master person index to provide provider and consumer information		AMIE has a listing of Medicaid providers and they receive a list of providers authorized by the partner Hospitals for matching.
	C2	public health		
	C3	other institutions (educational)		
	C4	non licensed providers (if any exist in state)		
	C5	data identification		
	C6	system identification		System identification is performed via IP address
	C7	Credentialing of health care providers		Credentialing is provided through the trusted relationship with the hospitals

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	D.	Audit		
	D1	what is audited		Provider and System is audited
	D2	who audits		AMIE has strong audit procedures
	D3	how often		Reports are reviewed weekly
	D4	external audit requirements		
	D5	rules of enforcement		AMIE is working in conjunction with the Arizona Health-e Connection to define enforcement
	E.	Authorization		
	E1	providers authorized to see what data		Providers are authorized via the trusted relationship with the hospital
	E2	consumers authorized		
	E3	public health		
	E4	other institutions (educational)		
	E5	non licensed providers (if any exist in state)		
	E6	data authorization		Data is a push from the data partners
	E7	system authorization		Systems are authorized by HIO and data partners
	F.	Access	Role Based using HL7 Standards	
	F1	Who can access what data		Providers are authorized to see all data except sensitive protected health
	F2	Who can change, update data		
	F3	Sensitive specially protected health information - substance abuse, HIV/AIDS, genetic etc.		Sensitive specially protected health information is suppressed at the HIO

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	G.	Consent Framework		
	G1	Opt In	*if patient opts out does the data still go to the HIO without allowing it to be viewed, changed etc.	
	G2	Opt Out	Recommend reviewing California consent models - very detailed based on use cases	
	G3	Notice only to consumer that their information in accessible via HIO		Arizona is a no consent state; AMIE has not acted on the consent issue, however the data partners made the choice to notify patients that their information would be in the HIO
	G4	Use of de-identified data		
	H.	Legal Agreements		
	H1	master participation agreement		A very detailed master participation was executed with each data partner
	H2	use agreement		A use agreement was executed with each data partner
	H3	business associate agreements		A business associate agreement was executed with each provider that the data partner authorized.
	I.	Policy and Procedures	Develop sound policy to manage authorization and access to electronic patient information in a consumer centric approach to health information exchange (Privacy and Security Policies)	
	I1	authentication		Policy and Procedures are place and followed

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	I2	audit		Policy and Procedures are place and followed
	I3	authorization		Policy and Procedures are place and followed
	I4	access		Policy and Procedures are place and followed
	I5	consent		
	I6	enforcement - statewide that all must adhere to and may require legislation or ownership by AG office		in process
	I7	Break the glass		
	I8	Form relevant policy to enable improved community health status		
	I9	HRB		
	I10	Support for Policies Governing Patient Authorization for Data Sharing		
	J.	Legal Issues		
	J1	HIPAA considerations		HIPAA rules were followed as policy and agreements were developed
	J2	MDCMRA as may be required		
Strategy and Planning	V.	Stakeholder Outreach and Education	Ensure Transparency, convene all stakeholders, educate	
	A.	Part of statewide governing body		
	B.	Documented process to educate:		
	B1	Consumers		
	B2	Under-served		

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	B3	Providers		Provider outreach includes a user group who reviews; prior to system launch focus groups were conducted with the providers who were participating in the pilot
	B4	Public Health		
	B5	Government Agencies		
	B6	Non-profits		
	C.	Understanding of market forces - patterns of care , who to connect with and political environment		
Detail Design	VI.	Care Delivery	Implementation Sequencing – Who has access first and Implementation Phasing - What information is available first	
	A.	Data Partners		
	A1	Hospitals		Three major hospitals provide data to AMIE
	A2	Laboratories		One major lab is providing data to AMIE
	A3	Clinics		
	A4	Pharmacies		AMIE has contracted with a firm to have them accumulate the medication history and provide to them
	A5	Individual Physician Practice		
	A6	Nursing Homes		
	A7	State Health Agencies		
	A8	Quality Organization		
	A9	Medicare		
	A10	Medicaid		

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	A11	Insurers		
	B.	Data Exchange Requirements		
	B1	Use case analysis to determine actors, information they need, how to provide:		
	B2	Clinical Decision Support Tools		
	B2-1	Medication history and reconciliation		AMIE is providing medication history
	B2-1-1	outpatient prescriptions		Provided
	B2-1-2	pharmacy prescriptions		Provided
	B2-1-3	e-prescribing and prescription histories		
	B2-1-4	Allergy and drug-drug interaction alerts		
	B2-1-5	Access to drug formularies for Medicaid and MD's two top private insurers		
	B2-2	Lab results		Provided by one major lab
	B2-2-1	outpatient lab results		Provided by one major lab
	B2-2-2	Outpatient episodes		
	B3	Radiology Results		
	B4	Radiology images		
	B5	Inpatient episodes		
	B6	Dictation / transcription		
	B7	Claims		
	B8	Pathology		
	B9	enrollment / eligibility		
	B10	Cardiology		
	B11	GI		
	B12	Pulmonary		
	B13	Hospital discharge summary		Provided by the Hospital partners

Section		Requirement	Definitions	Arizona / AMIE
	B14	Emergency room reports		
	B15	Patient Reported Data		
	B16	Ambulatory electronic health record		
	B17	Disease Management Tools		
	B18	Wellness and prevention support based on national proactive guidelines - disease management		
	B19	Medical Alerts		
	B20	Demographics		
	C.	Application Functionality		
	C1	Evaluate the following applications based on use case analysis:		
	C1-1	clinical messaging		
	C1-2	Continuity of care records (CCD)		
	C1-3	Longitudinal health records		
	C1-4	Elements of Shared Health Record		
	C1-5	Insurance Eligibility		
	C1-6	Functionality to Support Access to Data for Research		
	C1-7	Support for External Information Requests		
	C1-8	Master person index		
	C1-9	Record Locator Service		A record locator service is in place using MASS Share open source
	C1-10	Health Record Banking		
	C1-11	Auditing		Auditing software was custom
	C1-12	Security Applications		Security applications are custom

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	D.	System Architecture		
	D1	Plan for interfaces of data from data providers		Interfaces were written for all the data partners to send information to the HIO
	D2	Push / Pull		Push model is in place
	D3	Central Repository vs. Federated Model		
	D4	Record Locator - Edge Servers		Edge servers are installed at the data partner location but maintained by the AMIE staff
	D5	Hybrid Model		
	D6	MPI		
	D7	HRB with opt-in		
	D8	Web-based application (portal)		This is a web based application
	E.	Reporting		
	F.	Standards		
	F1	Standards for Message and Document Formats (HL7)		HL7 is being used
	F2	Standards for Clinical Terminology		Standards for clinical terminology is in use
	F3	Provide and implement CCHIT certified EMRs for selected physicians as determined by XXXXX with options including: EMR license with physician storing in office; license with storage at hospital or health bank; license with storage at vendor; ASP model		

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	F4	HITSP-endorsed IHE approach appropriate for supporting distributed data or HRB		HITPS used where applicable
	F5	ASTM Standards		
	F6	NIST e-authentication		NIST e-authentication standards considered
	F7	IHE		
Implementation	VII.	Project Management	Method for ensuring smooth planning and implementation	
	A.	Team Selection		All PM functions are in place
	B.	Detail Schedule		All PM functions are in place
	C.	Task development		All PM functions are in place
	D.	Hardware infrastructure		All PM functions are in place
	E.	Software Solution Deployment		All PM functions are in place
	F.	Interface analysis		All PM functions are in place
	G.	Interface Development		All PM functions are in place
	H.	Agreement negotiation		All PM functions are in place
	I.	Solution Testing		All PM functions are in place
Maintenance	VIII.	Operations processes	Support functions	All PM functions are in place
	A.	Staffing		All PM functions are in place
	B.	Support Services		All PM functions are in place